

REMARKS

In the Office Action, claims 25-30 were allowed, and claims 1-24 were rejected. Applicant thanks the Examiner for allowing claims 25-30. By this Reply and Amendment, claims 1, 5, 7, 15, 22 and 24 have been amended, and claims 1-30 remain pending in the present application. All claim amendments are fully supported throughout the written description and figures of the specification.

Claims 1, 4 and 7-24 were rejected under 35 USC 102(b) as anticipated by the Shallenberg reference, US Patent No.: 3,238,879. Independent claims 1, 7, 15 and 22 have been amended to clarify certain aspects of the invention, and those claims, along with their dependent claims, are believed patentably distinct over the cited reference.

The Shallenberg reference discloses a submersible pump A having a plurality of serially arranged pumping modules B, C with 15 lineally positioned pumping units 40 in each module. (See column 4, lines 12-41). A device D is positioned between modules B and C to compensate for dimensional variation between the impeller 50 and the diffuser 42 of each pumping unit. (See column 5, lines 42-47). Device D comprises an outer ring 70 which is threaded into outer covers 30 and into abutment with the adjacent diffusers 42. According to the reference, a "slight amount of torque" on the ring secures the diffusers within the cover. (See column 6, lines 39-44). There is no teaching or suggestion to use compression members or to use device D and its ring 70 for preloading diffusers to overcome cumulative pressure loads exerted by impellers during operation of the pumping system, as discussed below.

Accordingly, the Shallenberg reference fails to disclose or suggest various aspects of the pending claims. For example, the reference does not disclose or suggest a submersible pump with first and second housing sections and an intermediate body in combination with "a first compression member and a second compression member positioned to independently compress a plurality of diffusers in the first housing section and in the second housing section such that the plurality of diffusers are independently preloaded in both the first housing section and the second

housing section sufficiently to overcome cumulative pressure loads exerted by the plurality of impellers during operation" as recited in amended, independent claim 1. Similarly, the cited reference fails to disclose or suggest the methodology of amended, independent claim 7 which recites compressing the first plurality of stages within the first housing "to establish a preload sufficient to overcome cumulative pressure loads exerted by the plurality of impellers during operation" and compressing a second plurality of stages within the second housing to also "establish the preload". The Shallenberg reference also fails to disclose or suggest, for example, separately loading at least one group of multiple stages on each side of an intermediate body by compressing the at least one group with "at least one compression member disposed on each side of the at least one intermediate body" as recited in amended, independent claim 15. Additionally, the Shallenberg does not disclose or suggest aspects of independent claim 22 which now recites elements similar to certain elements found in the allowed method claim 25. For example, the cited reference does not disclose or suggest pulling a shaft to draw "each impeller towards an adjacent diffuser before stacking a next sequential diffuser and impeller on the shaft" as presently recited in independent claim 22.

Claims 4, 8-14, 16-21 and 23-24 all ultimately depend from one of the amended, independent claims 1, 7, 15 and 22 and are patentable for the reasons provided above with respect to those claims as well as for the unique subject matter recited in each dependent claim. Accordingly, claims 1, 4 and 7-24 are believed patentable over the cited reference.

Claims 1-3, 5 and 22-24 were rejected under 35 USC 102(b) as anticipated by the Theron reference, US Patent No.: 3,864,057. Independent claims 1 and 22 have been amended to clarify certain aspects of the invention, and those claims, along with their dependent claims, are believed patentably distinct over the cited reference.

The Theron reference discloses a pump 40 having housing 42 formed of a pair of steel cylinders 44.1 and 44.2 joined to each other by a threaded connecting socket 46. An individual first stage impeller 10.1 is disposed in housing 42 upstream and spaced from a first stage collector 28.1. On an opposite side of socket 46, a second stage impeller 10.2 is mounted

upstream and axially spaced from a second stage collector 28.2. However, the described configuration does not disclose or suggest various aspects of the subject claims.

For example, the reference does not disclose or suggest a submersible pump with first and second housing sections and an intermediate body in combination with "a first compression member and a second compression member positioned to independently compress a plurality of diffusers in the first housing section and in the second housing section such that the plurality of diffusers are independently preloaded in both the first housing section and the second housing section sufficiently to overcome cumulative pressure loads exerted by the plurality of impellers during operation" as recited in amended, independent claim 1. The Theron reference also fails to disclose or suggest aspects of independent claim 22 which now recites elements similar to certain elements found in the allowed method claim 25. For example, the cited reference does not disclose or suggest pulling a shaft to draw "each impeller towards an adjacent diffuser before stacking a next sequential diffuser and impeller on the shaft" as presently recited in independent claim 22.

Claims 2-3, 5 and 23-24 all ultimately depend from one of the amended, independent claims 1 and 22 and are patentable for the reasons provided above with respect to those claims as well as for the unique subject matter recited in each dependent claim. Accordingly, claims 1-3, 5 and 22-24 are believed patentable over the cited reference.

Claim 6 was rejected under 35 USC 103(a) as unpatentable over the Shallenberg reference in view of the Du et al. reference, US Patent No.: 6,688,860. This rejection is respectfully traversed. However, the rejection is believed moot in light of the amendments to independent claim 1. The Du et al. reference does not obviate the deficiencies of disclosure in the Shallenberg reference. Accordingly, claim 6 is patentably distinguishable over the cited references.

In view of the foregoing remarks, the pending claims are believed patentable over the cited references. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert A. Van Someren', written over a horizontal line.

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